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EXAMINER

MAYES, MELVIN C

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/731,937
Filing Date: December 10, 2003
Appellant(s): VAN GEERT ET AL.

Jerry Yetter
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 5, 2007 appealing from the Office action mailed January 8, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,200,253	YAMAGUCHI et al.	4-1993
5,658,968	CATENA et al.	8-1997
4,571,363	CULBERTSON et al.	2-1986
WO 93/08084	SHEARER et al.	4-1993
JP 60-28459	SAKATA et al.	2-1985

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of WO 93/08084, JP 60-28459 Abstract, Yamaguchi et al. 5,200,253, Catena et al. 5,658,968 and Culbertson et al. 4,571,363.

The admitted prior discloses that a typical holographic film structure for packaging comprises an organic solvent based lacquer applied to a polyester (PET) film, the lacquer embossed, a metallic layer, typically aluminum, applied to the embossed lacquer, the polyester film laminated to other films and the structure printed (pg. 1-2). The admitted prior art does not disclose that the organic solvent based lacquer is acrylic based applied with toluene, butyl acetate or ketone solvent or disclose printing the metallic layer by first applying a water based primer of

acrylic compounds then an organic solvent based ink of colored ink having ethanol as a solvent and white ink having ethyl acetate as a solvent.

WO 93/08084 teaches that the aluminum layer of flexible packaging material is applied by vapor deposition or sputtering. WO '084 further teaches that in making packaging material with holographic pattern by embossing a thermoplastic layer formed on a plastic film substrate, the thermoplastic layer may comprise an acrylic which softens and can be embossed under light pressure and can be applied as a solvent-based lacquer using solvent free of toluene or methylethylketone and a suitable solvent such as ethylacetate or with a solvent such that after drying the thermoplastic layer contains no more than 10 mg per square meter of retained toluene or methylethylketone. WO 93/08084 further teaches that printing is applied to the aluminum film applied to the embossed thermoplastic layer and teaches that the printing is protected by a layer of varnish (pgs. 1-5).

JP 60-28459 Abstract (JP '459) teaches that solvents for acrylic lacquer include ethyl acetate and butyl acetate as well as toluene and methylethyl ketone).

Yamaguchi et al. teaches that for holographic sheet used for packaging and provided with a reflecting layer of aluminum, printing and protective varnish layer, a primer layer of lacquer is provided between the reflecting metal layer and the protective layer (varnish layer) to insure better adhesion therebetween. The ink layer (printing) may be provided on the surface of the primer layer (col. 18, lines 4-17).

Catena et al. teach that solvent-borne flexible packaging printing inks are widely used to print a wide variety of substrates such as plastic films and aluminum foils because they offer economy, versatility, quality and simplicity. Catena et al. teach printers and packagers prefer

water-borne primers and teach that the ink should be formulated to have increased water-borne primer compatibility. Catena et al. teach that solvents for the printing ink can be selected from alkanols such as ethanol, acetates such as ethyl acetate or mixtures thereof (col. 1, lines 10-50, col. 2, lines 57-61, col. 3, lines 24-31).

Culbertson et al. teach that a primer for such use as for packaging material for improved adhesion to organic solvent based inks comprises an aqueous dispersion of acrylic component and acrylate co-monomer (col. 3, lines 12-68, col. 6, lines 45-52).

It would have been obvious to one of ordinary skill in the art to have modified the method of the admitted prior art for making a holographic film structure for packaging by providing the organic solvent based lacquer on the polyester film as an acrylic lacquer, as taught by WO '084, as a solvent-based lacquer that can be applied to a plastic film substrate for subsequent embossing to make packaging material having a holographic pattern, the thermoplastic acrylic enabling embossing under light pressure. The use of an organic solvent-based acrylic lacquer in the method of the admitted prior art would have been obvious to one of ordinary skill in the art, as taught by WO '084, as a lacquer applied to a substrate for embossing for making packaging material with holographic pattern.

Providing the organic solvent for the acrylic lacquer as butyl acetate would have been obvious to one of ordinary skill in the art, as WO '084 teaches that solvents such as ethyl acetate are suitable and JP '459 teaches that solvents for acrylic lacquer include ethyl acetate and butyl acetate. The use of butyl acetate instead of ethyl acetate would have been obvious to one of ordinary skill in the art as an acetate solvent that can be used for acrylic lacquer. Further, using toluene or methylethylketone (a ketone) as the solvent would have been obvious to one of

ordinary skill in the art, as WO '084 suggests that these solvents can be used so long as after drying, the thermoplastic layer contains no more than 10 mg per square meter of retained toluene or methylethylketone.

By providing the aluminum layer on the embossed layer by vapor deposition or sputtering, as taught by WO '084 as the methods used to apply an aluminum layer for packaging, an aluminum layer having pinholes is obviously formed.

It would have been obvious to one of ordinary skill in the art to have further modified the method of the admitted prior art for making packaging material with holographic film structure by applying printing and a protective varnish layer to the aluminum layer, as taught by WO '084, as applied to the aluminum film when making holographic packaging material.

Providing a primer lacquer layer on the aluminum layer before applying the printing and protective varnish would have been obvious to one of ordinary skill in the art, as taught by Yamaguchi et al, to insure better adhesion between the aluminum layer and the protective varnish of the holographic sheeting used for packaging, and as taught by Culbertson et al., to improve adhesion to ink.

It would have been obvious to one of ordinary skill in the art to have further provided the primer lacquer layer for improved adhesion to ink of a water solvent-based lacquer primer, as taught by Catena et al., as preferred by printers and packagers, and to have printed the primer with an organic solvent based packaging ink, as taught by Catena et al., as widely used to print a wide variety of substrates such as plastic films and aluminum foils because they offer economy, versatility, quality and simplicity. By applying a water based lacquer primer to the aluminum film for better adhesion of the protective varnish and ink as suggested by Yamaguchi et al. and

Culbertson et al., by providing the lacquer primer as water-based as preferred by printers and packagers as taught by Catena et al., and by providing the printing of a solvent-based ink as suggested by Catena et al; the references suggest making holographic packaging including the steps of applying a water solvent-based primer and an organic solvent-based printing ink onto a aluminum layer of holographic packaging, as claimed. Providing the water solvent-based primer between the aluminum layer and ink, as suggested, would obviously prevent solvent from the ink from migrating through the aluminum layer to the embossed acrylic lacquer, as claimed.

It would have been obvious to one of ordinary skill in the art to have even further modified the method of the references as combined by providing the water-solvent based primer as an acrylic primer of acrylic component and acrylate co-monomer (acrylic compounds), as taught by Culbertson et al., as primer used for packaging material for improved adhesion to organic solvent based inks.

It would have been obvious to one of ordinary skill in the art to have further modified the method of the admitted prior art by providing the white and colored solvent based inks for printing as each comprising ethanol and ethyl acetate, as Catena et al. teach that solvent for printing ink can be a mixture of an alkanol such as ethanol and an acetate such as ethyl acetate.

(10) Response to Argument

(I)

Appellant argues that the cited combination of documents does not suggest the pin-hole/solvent migration/dissolution problem discovered and addressed by Appellants. Appellant argues that the Examiner's position that pinholes are obviously formed assumes facts not in

evidence. Appellant argues that US 5,658,968 (Catena et al.) teaches away from the present invention in that the reference teaches that solvent-borne flexible packaging inks are generally not receptive to water-borne primers or adhesives while Appellants have discovered that a water based primers comprising acrylic compounds can be used with solvent based inks comprising ethanol or ethyl acetate solvents. Appellant argues that Catena et al. solve their problem with a special ink while Appellants solve their problem using a selected water based primer (acrylics) with selected solvent based inks (ethanol/ethyl acetate).

Appellant argues that WO 93/08084 does not teach or suggest separation of the printing layer from the metallic layer by the sole means of a primer but instead print directly onto the aluminum or print onto a separate material. Appellant argues that the combination of WO 93/08084 and Catena et al. constitutes impermissible hindsight without reason to combine.

Appellant argues that JP 62-28459 Abstract adds nothing to the combination of documents.

Appellant argues that US 5,200,253 (Yamaguchi et al.) squares with the teachings of Catena et al. with respect to the state of the art.

Appellant argues that US 4,571,363 (Culbertson et al.) adds nothing to the combination of documents and the relevance of its teaching is tenuous.

(II)

In response to applicant's argument that Applicants have recognized an unsuspected problem and a remedy to the problem, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227

USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). With respect to the discovered aluminum layer penetration problem and using water-based primer, it is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by Applicant. Applicant may have found that direct printing solvent-based ink onto an aluminum layer applied by vaporisation leads to dissolution of a solvent-based lacquer and uses a water-based primer to prevent the dissolution. However, the use of primer on an aluminum layer of packaging and to which ink and a protective layer are applied is suggested by Yamaguchi et al. for insuring better adhesion. While primer is suggested for a different reason, the use of a primer on an aluminum layer of packaging and onto which is applied printing is the same as what Applicant has done. Applicant cannot rely on the discovery of a problem for patentability if the subject matter as a whole suggests to do what Applicant has done, although for a different reason.

The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. See, e.g., *In re Kahn*, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed Cir. 2006). It is not necessary that the prior art suggest using water-based primer for the advantage of preventing solvent migration from ink as long as the prior art does suggest using water-based primer for some purpose or to solve some problem.

Regarding the claimed "aluminum layer having pin-holes," according to the present specification, when an aluminum metallic layer is applied by vaporization, pin-holes are usually present in the metallic layer. WO 93/08084 teaches providing the aluminum layer by vapor deposition which obviously results in an aluminum layer having pinholes.

With respect to Catena et al., the reference does not teach away from using solvent-borne inks with water-borne primer. The reference teaches that solvent-borne inks are widely used for printing packaging material and teaches that printers and packagers prefer water-borne primers. The objective of the Catena et al. patent is an improved solvent-borne packaging printing ink which has increased compatibility with water-borne primer. This is not a teaching away from using solvent-borne ink with water-borne primer but a teaching toward their use, otherwise why try to improve compatibility with water-borne primer. Appellant has not discovered that water based primer comprising acrylic compounds can be used with solvent based inks. As taught by the Culbertson et al., water-borne primer for use with organic solvent based inks include acrylic compounds. The Examiner would also like to point out that the use of primer comprising acrylic compounds is also only set forth in the Appellant's specification as a preferred embodiment, and Applicant's supposed invention is directed to using water-borne primer in general to prevent organic solvent from ink from migrating to the lacquer.

Appellant is arguing against and attacking the references individually; however the rejection is based what the combination of the references would have suggested to one of ordinary skill in the art. The admitted prior art discloses that a typical holographic film structure for packaging is made by applying and embossing an organic solvent based lacquer onto a polyester (PET) film, applying a metallic layer, typically aluminum to the embossed lacquer, laminating the polyester film to other films and printing the structure (pg. 1-2). The admitted prior art however does not disclose that the organic solvent based lacquer is acrylic based applied with toluene, butyl acetate or ketone solvent or disclose printing the metallic layer by first

applying a water based primer of acrylic compounds then printing with an organic solvent based ink of colored ink having ethanol as a solvent and white ink having ethyl acetate as a solvent.

WO 93/08084 is pertinent because the reference teaches that in making packaging material, the aluminum layer of flexible packaging material is applied by vapor deposition or sputtering, teaches that the embossable thermoplastic layer may comprise an acrylic which can be applied as a solvent-based lacquer using a solvent free of toluene or methylethylketone such as ethylacetate or with a solvent such that after drying the thermoplastic layer contains no more than 10 mg per square meter of retained toluene or methylethylketone. Thus, it would have been obvious to one of ordinary skill in the art to have modified the method of the admitted prior art by providing the organic solvent based lacquer on the polyester film as an acrylic lacquer, as taught by WO '084, as a solvent-based lacquer that can be embossed under light pressure.

With respect to the solvent for this acrylic lacquer being toluene, butyl acetate or ketones as claimed, providing the solvent for the acrylic lacquer as butyl acetate would have been obvious to one of ordinary skill in the art in view of the teaching of JP 60-28459 that solvents for acrylic lacquer include ethyl acetate and butyl acetate. Thus the use of butyl acetate instead of ethylacetate would have been obvious to one of ordinary skill in the art as an acetate solvent that can be used for acrylic lacquer. Even further, using toluene or methylethylketone (a ketone) as the solvent would have been obvious to one of ordinary skill in the art, as WO '084 suggests that these solvents can be used so long as after drying, the thermoplastic layer contains no more than 10 mg per square meter of retained toluene or methylethylketone.

Also at issue is whether it would have been obvious to one of ordinary skill in the art to have first applied a water based primer of acrylic compounds to the deposited aluminum layer

before printing with an organic solvent based ink of colored ink having ethanol as a solvent and white ink having ethyl acetate as a solvent. WO 93/08084 also teaches that the printing applied to the aluminum film is protected by a layer of varnish (pgs. 1-5). Yamaguchi et al. is pertinent because the reference teaches that for holographic packaging, a primer layer of lacquer is provided between the reflecting aluminum metal layer and the protective layer to insure better adhesion therebetween and teaches that the ink layer (printing) may be provided on the surface of the primer layer (col. 18, lines 4-17). Thus, it would have been obvious to one of ordinary skill in the art to have further modified the method of the admitted prior art for making holographic packaging material by not only applying a protective varnish layer to the aluminum layer, as taught by WO '084, but also providing a primer lacquer layer on the aluminum layer before applying the printing and protective varnish, as taught by Yamaguchi et al, to motivation being to insure better adhesion between the aluminum layer and the protective varnish.

As to the particular type of primer used, Catena et al. is particularly relevant because the references teaches that solvent-borne flexible packaging printing inks are widely used to print a wide variety of substrates such as plastic films and aluminum foils because they offer economy, versatility, quality and simplicity and that printers and packagers prefer water-borne primers for use with solvent-borne printing inks. This is a clear motivation that is known in the art to use a water-borne primer with the solvent-borne printing ink. As to the particular solvents for printing ink, as taught by Catena et al., solvent can be selected from alkanols such as ethanol, acetates such as ethyl acetate or mixtures thereof. Thus providing the primer lacquer layer for improved adhesion to ink of a water solvent-based lacquer primer and providing the ink as organic solvent based would have been obvious to one of ordinary skill in the art, as taught by Catena et al.

With respect to the Culbertson et al. reference, the reference is pertinent because it teaches that water-solvent based primer of an acrylic primer of acrylic component and acrylate co-monomer (acrylic compounds) is used for packaging material for improved adhesion to organic solvent based inks. Thus its use at the water-based primer would have been obvious to one of ordinary skill in the art.

In summary, the Examiner maintains the position that although the prior art may not recognize the problem of pin-holes in the aluminum layer and solvent migration, the combination of references do suggest that it would have been obvious to one of ordinary skill in the art to have used the combination of acrylic lacquer, aluminum layer, water-based acrylic primer and solvent-based printing ink as claimed to make a holographic structure for packaging purposes.

(11) Related Proceeding(s) Appendix

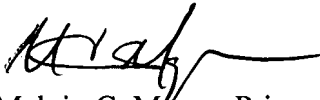
No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'M. Mayes', with a long horizontal flourish extending to the right.

Melvin C. Mayes, Primary Examiner, A.U. 1791

Conferees:

/Romulo H. Delmendo/

Romulo H. Delmendo, Appeals Specialist

/Philip C. Tucker/

Philip C. Tucker, Supervisory Patent Examiner, A.U. 1791